TEJUS
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Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Benaka Developers & Project Pvt.Ltd.

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	04-03-2023
Sample Location	At plant	**Date of Testing**	04-03-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	386.00	375.00	394.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	295.00	286.00	298.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	91.00	89.00	96.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.58	23.73	24.37	
5	Average Aggregate impact value	(%)	23.89			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

TEJUS CONSULTANTS

Consultant's Representative

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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	TEJUS CONSULTANTS, BANGALORE			
Contractor :	Benaka Developers & Project Pvt.Ltd.			
Date of Testing :	06-03-2023			
Type of Mix :	Tack coat			
Sample I/D :	2			
Location :	Shabarinagar Layout 1st Main Road			
Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@Ch:69**	**@Ch:123**	**@Ch:245**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.764	0.766	0.812
Final weight of plate after application of tack Coat (c)	Kg	0.787	0.789	0.835
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.253	0.253
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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ಬಿ.ಬಿ.ಎಂ.ಪಿ., ಬೆಂಗಳೂರು-26

ಸಹಾಯಕ ಅಭಿಯಂತರರು
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TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	Benaka Developers & Project Pvt.Ltd.
Date of Testing	:	06-03-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-2

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	867	958
2. Weight of Mixture after extraction, g	830	916
3. Weight of Bitumen	37	42
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	39.00	44.00
8. Bitumen content in %	4.50	4.59
9. Average Bitumen content in %	4.55	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Shabarinagar Layout 1st Main Road	**Date of Sampling:**	06-03-2023
		Date of testing:	06-03-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	830

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	46.0	46.0	5.54	94.46	90-100
19.00	125.0	150.0	18.07	81.93	71-95
13.20	118.0	265.0	31.93	68.07	56-80
4.750	166.0	438.0	52.77	47.23	38-54
2.360	95.0	533.0	64.22	35.78	28-42
0.300	145.0	678.0	81.69	18.31	7-21
0.075	96.0	774.0	93.25	6.75	2-8
Pan	56.0	830.0	100.00		
Total	830.0				

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ., ಬೆಂಗಳೂರು

Consultant's Representative

TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	Benaka Developers & Project Pvt Ltd
Date of Testing	:	07-03-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-3

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	893	941
2. Weight of Mixture after extraction, g	854	900
3. Weight of Bitumen	39	41
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	41.00	43.00
8. Bitumen content in %	4.59	4.57
9. Average Bitumen content in %	4.58	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Shabarinagar Layout 1st Main Road	**Date of Sampling:**	07-03-2023
		Date of testing:	07-03-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	854

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	55.0	55.0	6.44	93.56	90-100
19.00	123.0	178.0	20.84	79.16	71-95
13.20	115.0	293.0	34.31	65.69	56-80
4.750	165.0	458.0	53.63	46.37	38-54
2.360	99.0	557.0	65.22	34.78	28-42
0.300	175.0	732.0	85.71	14.29	7-21
0.075	66.0	798.0	93.44	6.56	2-8
Pan	56.0	854.0			
Total	854.0				

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ., ಬೆಂಗಳೂರು-24

CONSULTANTS

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TEJUS
CONSULTANTS

DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	TEJUS CONSULTANTS, BANGALORE			
Contractor :	Benaka Developers & Project Pvt.Ltd.			
Date of Testing :	07-03-2023			
Type of Mix :	Tack coat			
Sample I/D :	3			
Location :	Shabarinagar Layout 1st Main Road			
Determination	**Unit**	**Test No**		
		1	**2**	**3**
Loacation	**Chainage**	**@322**	**@430**	**@612**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.792	0.775	0.732
Final weight of plate after application of tack Coat (c)	Kg	0.815	0.798	0.755
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.252	0.254	0.254
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Consultant's Representative

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು ಬಿ.ಬಿ.ಎಂ.ಪ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪ, ಬೆಂಗಳೂರು-24

TEJUS

FLAKINESS AND ELONGATION INDICES (IS 2386, PART I)

Project :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor:	Benaka Developers & Prefect Pvt Ltd.

Type of Material	BC	**Proposed Use**	BC
Sample Location	At plant	**Date of Sampling**	07.03.2024
		Date of Testing	07.03.2024

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	828	78	928	76
16.0	12.5	1332	132	1235	116
12.5	10.0	526	75	445	55
10.0	6.3	460	54	430	67
Total		3146	339	3038	314

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.78	
Elongation Index(%):	10.34	
Combined FI+EI (%)	21.11	

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ಸಹಾಯಕ ಅಧಿಯಂತರರು
ಬ.ಬ.ಪಾ.ಪ. ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬ.ಬ.ಪಾ.ಪ., ಬೆಂಗಳೂರು-26

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AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	TEJUS CONSULTANTS, BANGALORE		
Contractor	Benaka Developers & Project Pvt.Ltd.		
Proposed Use	BC	**Date of Sampling**	07-03-2023
Sample Location	At plant	**Date of Testing**	07-03-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	391.00	352.00	358.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	295.00	261.00	264.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	96.00	91.00	94.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.55	25.85	26.26	
5	Average Aggregate impact value	(%)	25.55			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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ಸಹಾಯಕ ಆಯುಕ್ತರ ಅಧಿಯಂತರರು
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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05, Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt Ltd
Date of Testing :	09-03-2023
Type of Mix :	BC
Sample I/D :	BC3

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	945	971
2. Weight of Mixture after extraction, g	895	920
3. Weight of Bitumen	50	51
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	51.60	53.00
8. Bitumen content in %	5.46	5.46
9. Average Bitumen content in %	5.46	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location	Shabarinagar Layout 1st Main Road	Date of Sampling	09-03-2023
Type of material & Purpose.	BC	Date of testing.	09-03-2023
		Oven Dry Wt (gms)	895.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	68	68.0	7.60	92.40	90 - 100
9.50	102	170.0	18.99	81.01	70 - 88
4.75	120	290.0	32.40	67.60	53 - 71
2.360	113	403.0	45.03	54.97	42 - 58
1.180	100	503.0	56.20	43.80	34 - 48
0.600	92	595.0	66.48	33.52	26 - 38
0.300	85	680.0	75.98	24.02	18 - 28
0.150	70	750.0	83.80	16.20	12 - 20
0.075	65	815.0	91.06	8.94	4 - 10
Pan	80.0				
Total	895.0				

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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾ ನಗರ ಪಾಲಿಕೆ
ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-24

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾ ನಗರ ಪಾಲಿಕೆ

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	09-03-2023
Type of Mix :	Tack coat
Sample I/D :	3
Location	Shabarinagar Layout 1st Main Road

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location/ Chainage		**@Ch:89**	**@Ch:142**	**@Ch:245**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.792	0.784	0.784
Final weight of plate after application of tack Coat (c)	Kg	0.815	0.807	0.807
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.252	0.250
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS CONSULTANTS

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No.24, Shanthi Complex, 1st Stage, I Hill Colony, Basaveshwaranagar, Bangalore - 560079. ☎ +91 80 2328 7524 ✉ tejusconsultants@gmail.com

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	10-03-2023
Type of Mix :	Tack coat
Sample I/D :	4
Location	Shabarinagar Layout 1st Main Road

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location/ Chainage		**@Ch:322**	**@Ch:452**	**@Ch:633**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.834	0.794	0.781
Final weight of plate after application of tack Coat (c)	Kg	0.857	0.817	0.804
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.254	0.253	0.253
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	10-03-2023
Type of Mix :	BC
Sample I/D :	BC4

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	934	968
2. Weight of Mixture after extraction, g	885	917
3. Weight of Bitumen	49	51
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	50.60	53.00
8. Bitumen content in %	5.42	5.48
9. Average Bitumen content in %	5.45	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Shabarinagar Layout 1st Main Road	Date of Sampling:	10-03-2023
Type of material & Purpose:	BC	Date of testing:	10-03-2023
		Oven Dry Wt.(gms):	885.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	73	73.0	8.25	91.75	90 - 100
9.50	115	188.0	21.24	78.76	70 - 88
4.75	123	311.0	35.14	64.86	53 - 71
2.360	113	424.0	47.91	52.09	42 - 58
1.180	108	532.0	60.11	39.89	34 - 48
0.600	90	622.0	70.28	29.72	26 - 38
0.300	82	704.0	79.55	20.45	18 - 28
0.150	60	764.0	86.33	13.67	12 - 20
0.075	55	819.0	92.54	7.46	4 - 10
Pan	66.0				
Total	885.0				

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ಸಹಾಯಕ ಅಭಿಯಂತರರು
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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS. BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	11-03-2023
Type of Mix :	Tack coat
Sample I/D :	5
Location	Hegdenagar Main road

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location/ Chainage		**@Ch:69**	**@Ch:123**	**@Ch:206**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.753	0.764	0.811
Final weight of plate after application of tack Coat (c)	Kg	0.776	0.787	0.834
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.252	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	11-03-2023
Type of Mix :	BC
Sample I/D :	BC5

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	924	952
2. Weight of Mixture after extraction, g	875	902
3. Weight of Bitumen	49	50
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	50.60	52.00
8. Bitumen content in %	5.48	5.46
9. Average Bitumen content in %	5.47	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Hegdenagar Main road	Date of Sampling:	11-03-2023
Type of material & Purpose:	BC	Date of testing:	11-03-2023
		Oven Dry Wt.(gms):	875.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	68	68.0	7.77	92.23	90 - 100
9.50	103	171.0	19.54	80.46	70 - 88
4.75	121	292.0	33.37	66.63	53 - 71
2.360	112	404.0	46.17	53.83	42 - 58
1.180	102	506.0	57.83	42.17	34 - 48
0.600	91	597.0	68.23	31.77	26 - 38
0.300	88	685.0	78.29	21.71	18 - 28
0.150	75	760.0	86.86	13.14	12 - 20
0.075	56	816.0	93.26	6.74	4 - 10
Pan	59.0	875.0			
Total	875.0				

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ಸಹಾಯಕ ಅಭಿಯಂತರರು
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TEJUS
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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor:	Benaka Developers & Project Pvt.Ltd

Type of Material	BC	**Proposed Use**	BC
Sample Location	At plant	**Date of Sampling**	16-03-2023
		Date of Testing	16-03-2023

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	826	76	923	75
16.0	12.5	1335	126	1236	115
12.5	10.0	525	75	449	57
10.0	6.3	462	52	436	65
Total		3148	329	3044	312

Note: Minimum 200 Pcs should be taken on each fraction of test

	Flakiness Index(%):	10.45
	Elongation Index(%):	10.25
	Combined FI+EL (%)	20.70

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AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	TEJUS CONSULTANTS, BANGALORE		
Contractor	Benaka Developers & Project Pvt.Ltd.		
Proposed Use	BC	**Date of Sampling**	16-03-2023
Sample Location	At plant	**Date of Testing**	16-03-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	390.00	369.00	385.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	301.00	278.00	289.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	89.00	91.00	96.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	22.82	24.66	24.94	
5	Average Aggregate impact value	(%)	24.14			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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TEJUS

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt Ltd
Date of Testing :	19-03-2023
Type of Mix :	Tack coat
Sample I/D :	2
Location	Shabarinagar main road

Determination	Unit	Test No		
		1	2	3
Location/ Chainage		**@Ch:242**	**@Ch:306**	**@Ch:390**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.755	0.783	0.801
Final weight of plate after application of tack Coat (c)	Kg	0.778	0.806	0.824
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.252	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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ಕಿರಿಯ ಅಧಿಕಾರಿಯವರ
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TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	19-03-2023
Type of Mix :	BC
Sample I/D :	BC2

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	962	967
2. Weight of Mixture after extraction, g	911	916
3. Weight of Bitumen	51	51
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	1.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	52.60	53.00
8. Bitumen content in %	5.47	5.48
9. Average Bitumen content in %	5.47	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-17,Grading-2)

Sample Location:	Shabarinagar Layout 1st Main Road	Date of Sampling:	19-03-2023
Type of material & Purpose:	BC	Date of testing:	19-03-2023
		Oven Dry Wt (gms):	911.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	76	76.0	8.34	91.66	90 - 100
9.50	107	183.0	20.09	79.91	70 - 88
4.75	132	315.0	34.58	65.42	53 - 71
2.360	120	435.0	47.75	52.25	42 - 58
1.180	101	536.0	58.84	41.16	34 - 48
0.600	81	617.0	67.73	32.27	26 - 38
0.300	76	693.0	76.07	23.93	18 - 28
0.150	71	764.0	83.86	16.14	12 - 20
0.075	74	838.0	91.99	8.01	4 - 10
Pan	73.0				
Total	911.0				

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No.05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	28-03-2023
Type of Mix :	BC
Sample I/D :	BC6

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	948	923
2. Weight of Mixture after extraction, g	898	875
3. Weight of Bitumen	50	48
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	51.60	50.00
8. Bitumen content in %	5.41	5.42
9. Average Bitumen content in %	5.43	
10. Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-17,Grading-2)

Sample Location:	Hegdenagar Main road	Date of Sampling:	28-03-2023
Type of material & Purpose:	BC	Date of testing:	28-03-2023
		Oven Dry Wt.(gms):	898.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	75	75.0	8.35	91.65	90 - 100
9.50	104	179.0	19.93	80.07	70 - 88
4.75	125	304.0	33.85	66.15	53 - 71
2.360	115	419.0	46.66	53.34	42 - 58
1.180	105	524.0	58.35	41.65	34 - 48
0.600	88	612.0	68.15	31.85	26 - 38
0.300	85	697.0	77.62	22.38	18 - 28
0.150	65	762.0	84.86	15.14	12 - 20
0.075	70	832.0	92.65	7.35	4 - 10
Pan	66.0	898.0			
Total	898.0				

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TEJUS CONSULTANTS

Authorised Signatory

TEJUS

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd,
Date of Testing :	28-03-2023
Type of Mix :	Tack coat
Sample I/D :	6
Location	Hegdenagar Main road

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location/ Chainage		**@Ch:242**	**@Ch:346**	**@Ch:575**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.811	0.798	0.785
Final weight of plate after application of tack Coat (c)	Kg	0.834	0.821	0.808
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.254	0.253
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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ವ್ಯಾಪಾರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ-24

ಸಹಾಯಕ ಅಧಿಕಾರಿಯವರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ವ್ಯಾಪಾರಾಯನಪುರ ಉಪ ವಿಭಾಗ

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